Transmission of IPv6 Packets over IEEE 802.11 Networks Outside the Context of a Basic Service Set

draft-petrescu-ipv6-over-80211p-03.txt
Alex Petrescu, Nabil Benamar, Tim Leinmueller,

Presented by Nabil Benamar (Moulay Ismail University, Morocco)
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802.11p, and IPv6 over 802.11p

- **802.11p:** an amendment to 802.11 for Wireless Access in Vehicular Environments; if compared to WiFi:
  - Operation Outside the Context of a BSS (OCB)
  - New Timing Advertisement message (rolled into 802.11)
  - Frequency range in the 5.9GHz band
  - Approximate prohibition of IPv6 (== ‘not safety’!) on channel 178 (180 in Europe)
  - Half-rate encoding
  - High power levels (33 dBm in Europe, 44 dBm in US)

- **IPv6 over 802.11p works as over e.g. 802.11b**
  - MTU: default 1500 bytes
  - Frame Format: Ethernet Adaptation Layer
  - EtherType: 0x86DD, as with Ethernet
  - Link-local Addresses, as with Ethernet (RFC2464)
  - Address mapping, as with Ethernet
  - Very frequent Router Advertisements may be necessary to ease IP handovers in OCB context, as with Mobile IPv6.
Advancements since IET88 Vancouver

• 6man WG comments:
  – ND 6lowpan RFC6775 adapted for the subnet structure of networks of 802.11p links?

• v6ops WG comments:
  – The IID may be formed just like an IID for Ethernet (instead of ‘is’) -> next rev.
  – Referring or not to RFC2119, and the use of capitalized modal verbs -> should we capitalize and refer to this RFC, or drop the ref?
  – Use DNA RFC6059 instead of high-rate RAs? Please suggest text.

• 6lo WG comments:
  – RFC6568 6lowpan use-cases mention vehicular -> not clear relationship to 802.11p

• Private IEEE and IETF comments:
  – The use of a restricted reference to a IEEE P1609.2 document for security
    • Should we or should we not drop the P1609.2 reference? Or as informative ref?

• ISO TC204 WG16 comments:
  – FNTP-to-IP translators would be needed.
  – Minimal MTU recommendation similar to that of short WSMP messages (what is that length?)
• ITS BoF at 14h in Buen Ayre C